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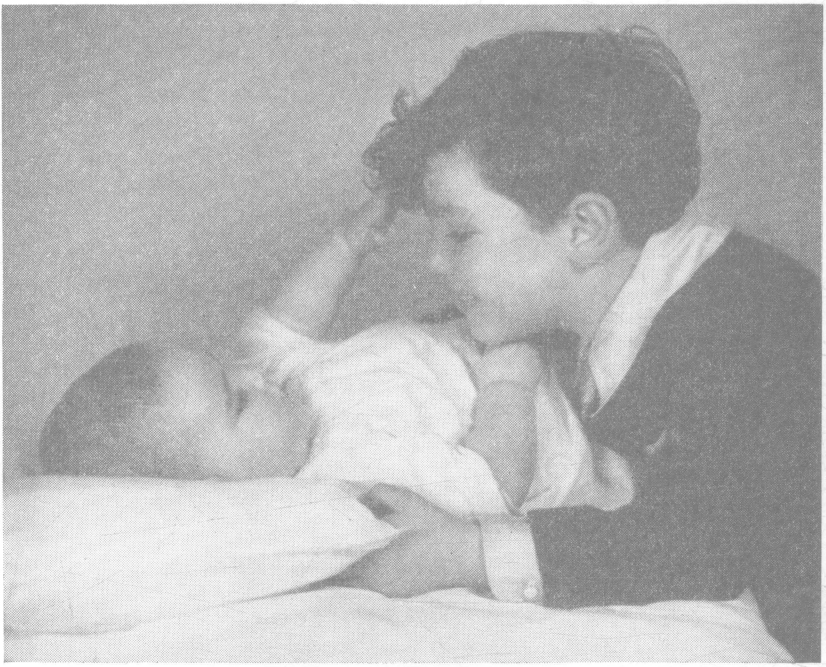
The Young Child and His Food



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By

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Contents

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The Young Child and His Food

THE FEEDING and care of infant and child should be directed by a competent physician. Medical aspects of individual cases must be considered along with nutritional aspects if the best interests of the child are to be safeguarded. Competent medical supervision of the prospective mother is fundamental both for her own safety and good health and for the welfare of the infant.

The material contained here is presented, not as a substitute for the doctor's care, but as one way to accomplish the desirable aim of clear understanding and appreciation of the problems involved in the rearing of children who are healthy and nutritionally fit.

The beginning of an infant's care must go back at least as far as the beginning of his life. Ideally it would be desirable to control conditions which go back farther than that, but excellent care of the prospective mother is usually the best that can be done to try to insure the arrival of the baby in the best possible physical state. The Children's Bureau speaks of the nine months before a baby is born as "the most neglected period of his existence."

We are concerned here chiefly with the care of the mother and child which will result in good nutrition, but all physical care which promotes general good health has a bearing on the welfare of both mother and child.

The Prenatal Period

The most important early step is a visit to a doctor for examination and advice as soon as a woman thinks she is pregnant. She should then remain under his care, faithfully following his advice until the baby is born. If the cost of care under a private physician is out of the question, care may be sought through a center or clinic maintained by public funds. It is very important both for mother and child that adequate care be received in some way. District and public health nurses may sometimes assist in the observation of physical conditions and should report to the doctor in charge of the case. This may greatly reduce the money cost.

Plans should also be made early for care at the time the baby is born. This may mean planning for care in a hospital or at home. If it is necessary to keep expenditures at the minimum, inquiry may be made at a hospital or from the physician in charge concerning a way to receive adequate care for a sum that can be afforded.

At the first visit of the prospective mother to the doctor, simple rules and advice will be given her for keeping well during the remaining period. It is not easy for her to remember all the details of care which the doctor will give her. Some of the things which she needs to know are given here in order that she may have time and opportunity to read and refer to them often. At the end of the bulletin a blank page is inserted which will be found a convenient place for notes from the interview with the physician.

The Importance of Diet

The pregnant woman's diet can never safely be left to chance or to the whims of appetite. It is fundamental that she be informed on what constitutes a sound diet under normal conditions, and how that diet may be altered to meet the needs of pregnancy.

If a woman has had an adequate diet before becoming pregnant, she does not need to increase her food during the first month or two. At no time does she "eat for two" in the commonly understood sense of greatly increasing her food intake. She must, however, maintain her own body in good health and provide for the growth of the baby. If her food does not provide both for her own needs and the baby's, the baby will develop at the expense of the mother's body.

What an Adequate Diet Should Include.—It may be well to consider at this point what is meant by an adequate diet. It must provide protein or tissue-building food of good quality. It must also provide minerals and vitamins needed for building and for regulating the body. Starches, sugars, and fats furnish energy or ability to do work, while water is needed both for building and for regulating. Some bulk is necessary as an aid in the removal of waste from the intestine. Since there is some misunderstanding of the term "bulky" food, it may be well to state that bulky food is that which contains a rather large amount of indigestible fiber or framework. Remaining as it does in the intestine after the digestible part of the food has been absorbed, it stimulates action of the intestine which is necessary for normal bowel movement.

The total amount of food normally needed depends chiefly on activity. A very active or hard working person requires more of the typical energy foods such as starches, sugars, and fats than an inactive one. The quantity of protein needed depends on the amount of active muscle tissue in the body or on the amount of growth which must be provided for.

Some of the growth or tissue building foods are better than others. Milk, eggs, cheese, meat, fish, and poultry are the most efficient proteins for building purposes, but part of the protein may be supplied by grain products, nuts, legumes, and other vegetable sources.

While all minerals which are normal constituents of the body are important, certain ones must be amply supplied, and if the requirements for those are met, it seems likely, from our present knowledge, that the food furnishes enough of others. Calcium and phosphorus, which are used for building the hard tissues of the body, are needed in larger amounts than other minerals. Iron is required in much smaller quantity, but is very important for the building of food. A very minute amount of iodine is sufficient for growth and health, but without that amount the thyroid gland may become enlarged and form simple goiter (1, 2, 3).*

The pregnant woman's need for iodine is greater than that of the non-pregnant woman (4, 5)* and a deficiency may more readily become apparent

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* These numbers refer to references listed on page 30, in which the subject is discussed at further length.

during pregnancy and lactation than under normal conditions. Some enlargement of the thyroid is noted in 70 to 80 per cent of all pregnancies (6).*

Foundation Diet for a Normal Adult.—In order that the prospective mother may be able to judge whether she has been eating a good diet previous to pregnancy, a foundation diet for the normal adult is suggested below. This diet provides only the kinds and amount of foods which furnish the necessary protein, minerals, and vitamins. Fats (including butter or cream), sugars, and starches must be added to bring it up to adequate energy value to provide for the activity of the individual.

Essentials to Include in a Day's Diet
(The amounts given are for daily use)

Milk—at least one pint.

Egg—one.

Meat—one average serving.

Potato—one medium sized.

Vegetables—Two or three servings (about 1 pound). (Preferably one raw and leafy.)

Fruits—two or three servings (about 1 pound). (Preferably one citrus or tomato.)

Whole Cereal—one serving.

or

Whole Grain Breads—three to four slices.

Half or more of the amount of protein needed by the average adult is here provided in the form of milk, egg, and meat, which are excellent sources of protein. The remainder may easily be furnished by the other foods included in the diet.

Nausea

About one-third of all pregnant women are troubled with nausea during the early part of pregnancy. No doubt in many instances the state of mind has much to do with the occurrence of nausea, and many physicians believe that a large number of women suffer from "morning sickness" because they expect to and for no other reason. Since nausea, even when it is definitely due to physiological disturbances, interferes with the state of nutrition, every effort should be made to overcome it and prevent it from becoming a habit.

Lack of information as to what may be expected is responsible for many of the fears, superstitions, and erroneous beliefs on the part of young women who are pregnant for the first time. Discomforts do occur in most cases, but usually there are ways to relieve them. Pregnancy is a natural process, and the more fully the prospective mother can realize that fact the less likely she is to be upset by unnecessary anxieties.

* See page 30.

Nausea or vomiting which persists far into the pregnancy period is of different origin from ordinary "morning sickness" and requires medical advice.

Laxative Diet

A laxative diet is fundamental for the pregnant woman. Not only her own waste but waste products from the developing baby must be removed from the body. The eating of laxative fruits, vegetables, and whole cereal products is often the only measure needed. If constipation occurs, however, special attention must be paid both to the food and to the extra measures which the doctor may suggest.

The drinking of six to eight glasses of water is usually advised, partly as an aid in the removal of waste by way of the kidneys, but also because it usually helps bowel movement.

The vegetables which are most valuable for laxative purposes are those with considerable cellulose or roughage such as spinach, lettuce, asparagus, string beans, celery, onions, and dried beans.

Fruits which are most laxative are prunes, figs, raisins, and some others with their skins. The acids present in most fruits also tend to stimulate intestinal action.

Whole cereals are more valuable than refined cereals because they contain the bran layer and the germ, both of which aid in elimination. Bran alone may be used, but if taken in excess is irritating for many people.

Fats are laxative for some people, although enough fat to serve the purpose increases the likelihood of gain in weight, and a pregnant woman's increase in weight usually should not exceed about 15 pounds. The mineral oils which are not digested or used by the body are more likely to be of benefit in controlling constipation. Sometimes such oils are combined with agar-agar, a product resembling gelatin, which is made from an edible sea-weed, and in that form it is more easily taken by the average person. It also is more effective in producing a normal bowel movement.

Food and Drink Habits which Should Be Avoided by the Pregnant Woman

All rich and greasy foods should be avoided. They are undesirable at all times, but especially during pregnancy.

A matter of great importance is that of avoiding indulgence of freakish craving for a limited number of foods. The period of nausea (if it occurs) is sometimes responsible for such indulgence, but the diet may become dangerously unbalanced by limitation of variety. Harmless foods which are desired may be eaten provided they do not crowd out the essentials. Any foods which appear to cause indigestion should also be avoided, as well as excess salt, tea, or coffee. If a woman has been accustomed to tea or coffee she may usually continue to take it, but the amount is probably best limited to one cup a day.

Alcoholic drinks should be avoided. They serve no purpose in building the baby, and the effects of alcohol are undesirable for the best interests of both mother and child.

Under all circumstances the amount of meat should not exceed one moderate serving. In some cases the doctor may advise complete removal of meat from the diet.

The Development of the Baby and Its Effect on the Mother's Food Requirements

Not until about the middle of pregnancy does the baby's body increase noticeably in size. While the mother requires some increase in food early, it is chiefly in the last half of pregnancy that the energy value of her diet needs increasing to the extent of about one-fifth or one-fourth.

The sacs for the baby's teeth are developed at about three months. Some minerals are needed for the baby's bones and teeth early, but most of the lime for hard tissues is deposited during the last two months. The temporary teeth are partially hardened before birth and some minerals are deposited in the six-year molars which are permanent teeth. Many people, including some research workers in dentistry (7, 8)*, believe that because it is chiefly the temporary teeth which are hardened before birth the prenatal diet is of no importance in its effect on the permanent teeth, but every dentist knows the value of a good set of temporary teeth which can stay in place until the permanent teeth are erupted. The regular placement of permanent teeth is largely dependent on retention of the temporary teeth. There is much evidence to support the view that the prenatal diet is of great importance in its effect on permanent teeth.

The fact that a small amount of hardening of the first permanent molars takes place before birth is an indication that at least these four permanent teeth are affected by the diet during pregnancy. It is a matter of common observation that many adults appear to lose the first molars even when all other teeth remain relatively sound.

The baby should store enough iron in his liver to last for five or six months. Milk is his chief food for that period of time and milk is a poor source of iron. Extra iron to insure storage by the baby is provided by egg yolk, meat (especially heart, kidney, and liver), spinach and other green colored vegetables, dried legumes, whole cereals, and some fruits such as prunes or apricots.

The Mother's Ability to Nurse Her Child

Unfortunately, we do not yet know all the factors which have to do with a woman's ability to furnish milk for the baby. Good diet during pregnancy and lactation is essential. Care of the breasts during pregnancy is so important that the doctor will teach the prospective mother the method of caring both for the breasts and the nipples. The comfort of the mother as well as the

* See page 30.

baby's ability to nurse are largely dependent on how well the breasts are cared for. Flat or retracted nipples should be made more prominent in order that the baby may be able to get hold of them. Toughening of the nipples prevents soreness and cracking later.

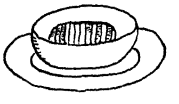
Daily Diet for a Pregnant Woman

Milk, 1 quart
1½ quarts may be used the last 4 months

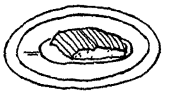
Vegetables
2 to 3 servings (about 1 lb.)
Preferably one raw and leafy

Water
6 to 8 glasses

Fruits
2 or 3 servings (about 1 lb.)
Preferably one citrus or tomato

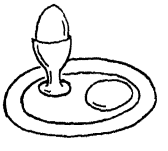


Whole Cereal or Whole Grain Breads
1 or more servings



Meat, Fish or Poultry
Not over 1 serving

One Potato



Egg or Egg Yolk
1 daily.
More may be used occasionally

Fats (including butter and cream), sugars and starches to build diet up to required energy needs.

Cod liver oil is prescribed by most doctors, and it is desirable to spend time each day in the direct sunshine.

The doctor may also find the administration of iodine necessary.

Remember These Facts

The baby's teeth are built before birth.

The baby should store iron to last for five or six months until he may have iron-rich foods.

The baby's muscles and skeleton must be strong and well-formed.

The mother's body and teeth must be protected against damage.

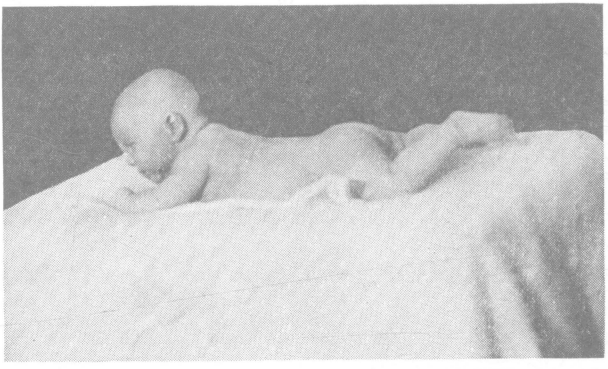
A good diet is probably an aid in making possible the nursing of the baby and in furnishing a store of materials in the mother's body which helps her to withstand the strain of nursing.

The Infant

Importance of Breast Milk for the Baby

Breast milk is the baby's natural food. In spite of the fact that artificial feeding is much more successfully accomplished than formerly, statistics still prove a lower death rate for breast-fed than for artificially-fed infants during the first year.

Every mother who can furnish a good quality of milk should aim to nurse her baby, and the majority of women can nurse their children. If only the quantity of milk is lacking, the baby can nurse first and be supplied with a bottle feeding afterwards, and be the better for having had some breast milk. Furthermore, it is often possible to increase the quantity of milk produced by increasing the liquid consumed, by emptying the ducts completely, and by rest and relaxation. In some experimental animals it has been found possible to



Head up at Three Months

increase the quantity of milk secreted by giving a high protein diet during pregnancy. One or two studies of women seem to prove the same point (9, 10).*

Fundamentals of the Nursing Mother's Diet

The preceding discussion of diet during pregnancy has shown that the pregnancy period is not one requiring a tremendous increase in quantity of food consumed. It is fundamental to have the *kinds* of foods in the diet which will maintain the mother's own body and furnish proper growing material for the baby.

During the nursing period, however, there is a severe drain on the mother's body, especially if the quantity of milk produced is large. While

* See page 30.

definite knowledge of the requirements of the nursing mother is still lacking, the results of some experimental work seem to show that the energy value of food consumed probably needs to be increased to almost double that normally required, and the quantity of food also needs special consideration.

Milk is fundamental, since it is the only excellent source of calcium, and a nursing mother's calcium requirement is about double her usual requirement. Milk also furnishes other valuable minerals, a good quality of protein, and vitamins. Foods which are rich in vitamins should be taken in abundance. The baby's need of vitamins is at least partially met by the mother's milk. The doctor may wish her to take extra sources of vitamins in the form of cod liver oil and vitamin B extract. The nursing mother requires much more of vitamin B than under ordinary circumstances.

Sun baths are valuable both for her own good and for the effect on the vitamin D content of her milk. Milk at best, however, is so low in vitamin D that it is no longer depended upon as a source of that vitamin. The baby receives vitamin D directly in the form of cod liver oil.

A large amount of liquid is recommended for the nursing mother as an aid in milk production (11).* Since milk is 87 per cent water and furnishes so much excellent milk building material it can well be used to furnish part of the extra liquid. Water to the extent of six or eight glasses daily is also advised.

The Nursing Mother's Daily Dietary

Simple, easily digested, laxative foods.

Milk—at least 1 quart daily. Probably 1½ to 2 quarts is desirable if the mother can take that amount without crowding out other essentials.

Fruits—three servings daily (one citrus or tomato).

Vegetables—three servings daily (one raw and leafy).

Whole cereals and whole grain breads—one or more servings daily.

Meat—once daily.

Egg or egg yolk—one daily.

Water—six to eight glasses daily.

Extra fats, starches and sugars to provide about double her usual energy intake.

Cod liver oil (1 teaspoon in summer and 2 teaspoons in winter) may be taken without a doctor's prescription, but viosterol must be taken only under a doctor's direction.

Rest, relaxation, plenty of sleep, and freedom from worry are necessary for the nursing mother. Emotional upsets and hard physical work are often responsible for cutting off the milk supply.

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* See page 30.

Feeding Schedule for the Baby

The doctor will decide on the feeding schedule for the baby. Some doctors still use a three-hour interval between feedings, but there is a tendency among pediatricians to use the four-hour interval. Under the three- and four-hour intervals the feedings will be given as follows:

Three-hour interval:

6 A.M. 9 A.M. 12 M. 3 P.M. 6 P.M. 10 P.M.

Four-hour interval:

6 A.M. 10 A.M. 2 P.M. 6 P.M. 10 P.M.

At first it is often necessary to supply also a 2 A.M. feeding, but this should be given up as soon as possible (usually by the end of the second month), partly to permit longer hours of sleep for the mother. Its chief value at first is the stimulation of milk production by emptying the ducts of the breasts frequently. Emptying the ducts is the greatest known stimulus for milk production. Some infants are poor nursers and do not receive enough milk to last for a four-hour interval. For most infants, however, a four-hour interval is preferable. It gives a period of rest for the digestive tract between meals, and the baby usually has a better appetite than when fed more frequently. The baby also puts on less fat, but is healthier.

Regularity of feeding is so important that mothers are instructed to feed the baby "by the clock."

Artificial Feeding

If breast feeding is impossible, the doctor must plan for artificial feeding. Since every case is an individual problem, no attempt will be made here to do more than offer information on the types of feeding most commonly used.

Modified Cow's Milk.—Cow's milk is designed for growth of the calf. It is too high in protein for the baby's rate of growth. Water is usually used to dilute the protein, but diluting makes necessary the addition of some type of sugar to build up the energy value of milk. The milk is usually boiled to produce a finer curd during digestion, since the milk of most cows forms a large tough curd which is not easily digested by the baby.

Acid-Milk Feeding.—Evaporated milk (unsweetened) is the basis for a special type of infant food. The milk is made acid before giving it to the baby in order to aid in its digestibility. Sugar is also added.

"Complete" or Synthetic Infant Foods.—Some dried milk infant foods are so mixed with other materials that they are ready for use by merely adding water to change them to a liquid state. They are said to contain all food elements needed by the baby except certain vitamins.

If pure fresh milk is not obtainable, dried or unsweetened evaporated milk may be used instead of fresh milk in any formula. Buttermilk is also used by some doctors.

No mother should ever use a proprietary infant food without a doctor's direction, because some preparations on the market are meant to be used only

as sugar is used in modified cow's milk. Such foods are fattening but they do not build good muscles, bones, and teeth.

Additional Foods for the Baby *(Breast or Artificially Fed)*
(See Feeding Schedule, Page 13)

Although milk must in necessary amounts furnish the main food for the baby, other foods must be added to supply what milk lacks. Iron as well as vitamins C and D are present in too small quantity to provide adequate development of the baby. There are also indications that babies thrive better with additional amounts of vitamin B, but as yet not all doctors are using regular additions of vitamin B as they do of C and D.

Cod liver oil is given chiefly to furnish vitamin D, but it also furnishes vitamin A.

Orange or tomato juice furnishes vitamin C and prevents scurvy. It also furnishes minerals and other vitamins. Orange juice is diluted with an equal volume of cool boiled water. If strained tomato juice is used instead of orange juice double the amount fed and add no water (see Feeding Schedule, page 13).

Other mild fruit pulps such as prune, apricot, ripe banana, or apple sauce may be added by the tenth month.

Cereal is added to furnish starch and protein. If whole cereals are used they furnish more minerals than refined cereal, also vitamin B and roughage. Use dark cereals more frequently than refined cereals. Cereal is also a means of teaching the baby to eat solid food.

Cook cereals for one to two hours. If coarse cereals are used early they should be mashed through a strainer to avoid excess roughage.

Egg yolk is added chiefly for iron, but it also furnishes other minerals and vitamins A, B, D, and G.

Spinach is chiefly valuable for iron and vitamins. All fresh vegetables are valuable for their minerals, vitamins, and roughage. Spinach should be used more frequently than the others because of its high iron and vitamin content, but fresh peas, asparagus, green lima beans, carrots, and tender beets may be used for the infant. Mashed potatoes add starch, some protein, minerals, and vitamins. They must not replace other fresh and leafy vegetables.

Cook fresh vegetables in small amounts in the least water possible and for the shortest possible time to give tenderness. The small amount of cooking water left at the end of cooking contains vitamins and minerals and should be used with the vegetables.

Water should be offered regularly and frequently to a baby, whether he takes it or not. Most mothers give too little water.

Weaning

Weaning is usually done by the sixth to the ninth month. Ordinarily it is better to avoid weaning during hot weather unless the milk supply is

Abbreviations:
t.—teaspoon
T.—tablespoon
a.f.—artificially fed

Additional Foods for the Baby

(Based on four-hour schedule) (Give before milk feeding)

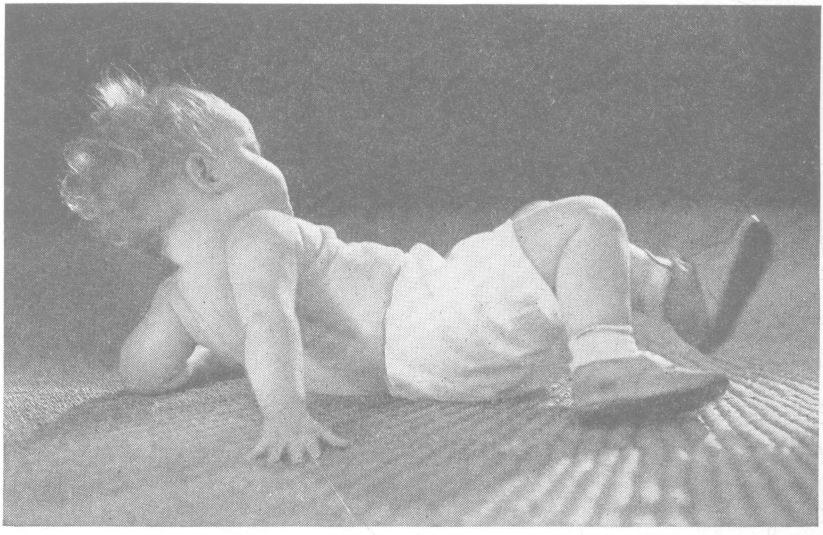
Adapted from Infant Care—Children's Bureau Publication No. 8. 1934.

Time of Feeding	End of second week	End of first month	Second month	Third month	Fourth month	Fifth month	Sixth month	Seventh month	Eighth and ninth months	Tenth, eleventh and twelfth months
6 A.M.										
10 A.M.	½ t. tested cod liver oil. *a.f.*—½ T. orange juice mixed with equal volume cool boiled water; or 1 T. tomato juice	½ t. cod liver oil. 1 t. orange juice. (*a.f.*—1 T.) and water, or 2 t. tomato juice (*a.f.*—2 T.)	1 t. cod liver oil. 2 t. orange juice. (*a.f.*—1 T.) and water or 1 T. tomato juice (*a.f.*—2 T.)	1½ t. cod liver oil. 1 T. orange juice and water, or 2 T. tomato juice.	2 t. cod liver oil.	← Continue cod liver oil in this amount for at least two years →				
					← Continue orange juice or tomato juice in these amounts →					
						½ to 1 T. cereal.	2 to 3 T. cereal.	3 to 4 T. cereal.	3 to 4 T. cereal.	3 to 5 T. cereal.
2 P.M.						¼ t. or less egg yolk, increasing to 1 whole yolk.	1 t. spinach pulp, increasing to ½ T. 1 egg yolk.	1 T. spinach or other vegetable pulp. 1 egg yolk.	2 T. vegetable pulp. Hard bread. 1 egg yolk.	3 T. vegetable pulp. Hard bread. 1 egg yolk. 2 T. baked potato
6 P.M.	½ t. cod liver oil. *a.f.*—½ T. orange juice mixed with equal volume of cool boiled water, or 1 T. tomato juice.	½ t. cod liver oil. 1 t. orange juice (*a.f.*—1 T.) and water, or 2 t. tomato juice (*a.f.*—2 T.)	1 t. cod liver oil. 2 t. orange juice (*a.f.*—1 T.) and water, or 1 T. (*a.f.*—2 T.) tomato juice.	1½ t. cod liver oil. 1 T. orange juice and water, or 2 T. tomato juice.	2 t. cod liver oil.	← Continue cod liver oil in this amount for at least two years →				
					← Continue orange juice or tomato juice in these amounts →					
						½ to 1 T. cereal.	2 to 3 T. cereal.	3 to 4 T. cereal.	3 to 4 T. cereal.	3 to 5 T. cereal. 1 T. apple sauce or prune pulp.

diminished or there is some other good reason for weaning. The baby weaned at nine months scarcely knows when he is weaned. By that time he is receiving a number of foods and has learned to eat from a spoon and to drink from a cup.

Teaching the Baby to Eat New Foods

Babies are morely likely to be disturbed by new consistencies of food than by new flavors. A baby knows how to do nothing but suck until new foods are offered him. Spitting out is not a sign of dislike, but shows only that the baby has to learn what to do with new foods. Because some babies react unfavorably when new foods are introduced, it is well to begin with a small amount of the new food and offer it often until the baby learns to take it.



Learning to Turn Over (*Courtesy Johnson and Johnson, New Brunswick, N. J.*)

It is also well to offer new foods when the baby is hungry. Some foods will naturally be better liked than others, but a baby can very easily be taught to like all necessary foods in a very short period of time. Taste is almost entirely a matter of cultivation.

The attitude of the mother is an important factor in the training of the baby to like new foods. If she maintains a positive, matter-of-fact manner of offering new foods she will find little difficulty in training the baby, and the best time to teach a liking for new foods is early in his life. Children who go on to three or four years of age before their training is started develop food prejudices and dislikes which are then difficult to overcome. The mother realizes too late that all education of the infant begins at birth.

One of the most serious mistakes of feeding consists of offering young

children foods which have no part in their nutrition program. If a child never tastes concentrated sweets, tea, coffee, gravy, and other foods which are best left out of his diet during the early years, he never knows that they exist and is contented to go on eating the foods that are best for him.

Factors Affecting Appetite

Appetite is variable in children. Some children are always hungry and eat all the food that is offered them. If appetite fails there is usually a reason. The child may be ill, or too tired and excited to eat. One of the fundamentals in good nutrition is plenty of rest and sleep, as well as plenty of fresh air and sunshine. If any food disagrees with the child it should be discontinued at once, as it may easily be the cause of lack of appetite. It must also be recognized by the mother that her child may refuse to eat in order to attract attention or to test his power over her.

Constipation

A constipated baby usually requires a change of diet. The breast-fed baby is less likely to be constipated than the bottle-fed. A young baby will often have constipation relieved merely by giving 1 to 3 teaspoons of prune juice with 1 teaspoon of water between any two feedings; or, if necessary, increase the amount by 1 teaspoon daily until 14 to 16 teaspoons of prune juice is being given (11)*. Prunes are soaked and cooked with no sugar.

The orange juice which the baby regularly takes is not sufficiently laxative to prevent constipation or to relieve it if it occurs. If a baby is bottle-fed, brown sugar substituted for other sugar used in the formula is often laxative (11)*. The whole cereals and vegetables which are added at five or six months usually result in normal bowel movements.

How to Judge the Success of Feeding

1. *Weight Gains.*—In six months the baby doubles the birth weight and trebles it in one year. The average gain runs about as follows:

First three months	1 ounce per day
Second three months	⅔ ounce per day
Third three months	½ ounce per day
Fourth three months	⅓ ounce per day

Slight variations from the above rate should not be taken too seriously if everything else seems normal. Babies do not all gain at the same rate.

2. *Mental Attitude.*—A well-fed baby is happy and contented, and cries very little unless uncomfortable or hungry. He is usually not afraid of people unless he has been made so by injudicious approach.

3. *Normal Stools.*—A breast-fed baby usually has daily two to four stools of orange-yellow color and soft consistency. The artificially-fed baby has

* See page 30.

fewer stools of lemon-yellow or darker color and more solid consistency. Color of stool is often affected by diet.

4. *Teething.*—The average time for the eruption of the first or temporary teeth is shown in the diagram below.

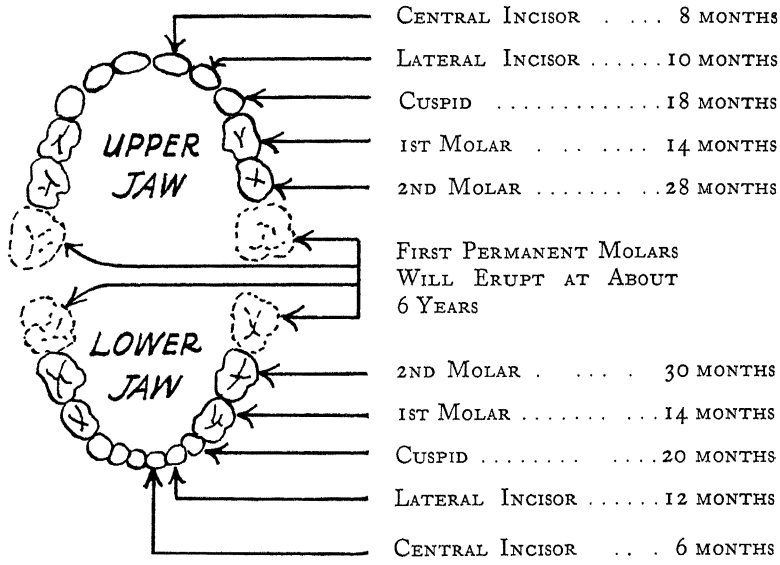


DIAGRAM SHOWING THE AVERAGE TIME FOR THE ERUPTION OF TEMPORARY TEETH AND OF THE FIRST PERMANENT MOLARS.

At least by the end of the first year the eight central incisors, and by 2½ years the twenty temporary teeth are erupted. Three years is about the maximum period for normal teething. An optimum diet during infancy is fundamental to finish the calcification of temporary teeth and start the calcification of permanent teeth.

5. *Closing of the Fontanelles* (soft spots on the top and back of the infant's head).—The back one should be closed by about the end of the second month; the top one by the sixteenth to twentieth month.

Abnormalities in any of the above respects usually means failure of nutrition. Babies with rickets are slow in teething and the fontanelles do not close normally.

6. *The Muscular and Mental Development of the Baby.*—These are definitely related to the nutritional state. A baby 3 months of age can hold up his head somewhat; he grasps objects, but his coordination is defective. At 6 months he can sit alone and can reach for objects. At 9 months there are signs of creeping, or the child may be fully able to creep and to pull up. At 1 year he can walk and can say a few words. At 2 years, if not earlier, he can form simple sentences.

Well nourished babies are often ahead of the average schedule on all phases of development. Also a healthy breast-fed baby is often ahead of a bottle-fed baby in its development, although there are exceptions to that statement. Slight retardation need not cause concern, but marked retardation in development indicates that all is not well with the baby. The cause of failure to develop should be determined.

An optimum rather than an adequate diet should be the aim all through pregnancy, infancy, and childhood, to build superior children.

Abnormal Stools (*Due to Dietary Causes*)

Green acid stools, usually with diarrhea and a fretful, crying baby, indicate excess carbohydrates in the diet. If the color is green without acid and the baby seems normal, the color is probably due to green pigment in the infant's food.

Soap stool is a dry, hard, white stool due to excess fat. It is really fat constipation. If the diet contains considerable fermentable carbohydrates along with high fat, diarrhea may result.

Foul-smelling, dark-colored stool is usually due to excess protein in the diet.

Other Nutritional Abnormalities of Infancy

Rickets.—Rickets is a disease in which the proper hardening of bones and teeth does not take place. The early signs, such as a profuse head sweating, nervousness, and general lack of well being, are difficult to recognize. They are extremely important, however, since it is desirable to prevent the advanced signs of rickets, such as beading of the ribs, wing shoulders, bow legs, and other bone abnormalities. If the mother has not had an excellent diet and sun exposure during pregnancy, the baby will show a tendency to have rickets very early in infancy.

Sun baths for the baby from the beginning are valuable, as well as good diet and routine use of cod liver oil. In giving a baby a sun bath for the first time expose a small surface for a very short period of time (5 to 10 minutes), gradually increasing both surface exposed and time of exposure. In winter avoid drafts. Sunlight must be direct and not through window glass.

Unless the mother has been previously treated in anticipation of rickets in the baby, it is almost impossible to prevent rickets in the premature baby because he arrives before the usual calcification is complete in his body.

Rickets most frequently occurs from 3 to 18 months of age. It may appear earlier and may occur in children 2 years of age or older, but the foundation is laid for it earlier.

Scurvy.—If babies are not given a preventive food such as orange or tomato juice they may develop scurvy. Soreness of the muscles and joints, swelling of the joints, hemorrhages in various parts of the body, bleeding gums, looseness of teeth (if it occurs after the teeth appear), and anemia are the usual signs of advanced scurvy. The feeding of an anti-scorbutic food brings prompt relief.

Eczema.—This is a rash or skin trouble often accompanied by itching and burning. It is common in fat, healthy-looking infants and is rarely seen in poorly nourished infants. Overfeeding is one cause, especially of fat foods or carbohydrate foods in excess. Protein foods, especially egg white, also cause the disturbance in some children. Egg yolk and cow's milk may also affect children who are sensitive. Local treatment is of little use unless disturbances of nutrition are removed, but doctors sometimes feel that mild eczema may be treated locally and allowed to go on rather than take essential foods out of the baby's diet. It is important to prevent eczema from spreading and becoming very severe.

Asthma and hay fever are disturbances which are similar to eczema due to protein sensitivity, but are more serious in nature. A doctor must advise the mother regarding the method of treatment for asthma, hay fever, and eczema.

The Child from 1 to 6 Years of Age

Importance of Continued Supervision

The statement was made earlier that the pregnancy period is often a period of neglect for the infant. The period immediately following infancy may also be a period of relaxation on the part of the mother, if not actually one of neglect. The mother often feels that the child is past the danger period after the first year, and that he has a good start. She then relaxes a bit in her efforts, especially if another baby has arrived.

The problem of meeting a child's increasing physical needs is not one which can safely be left to chance. Through the first year of life the child has been very gradually introduced to a fairly wide variety of plain foods. The diet immediately following the first year is changed very little except in quantity. Orange juice, which may be given in larger quantity than 1 tablespoon twice daily during the latter part of the first year, requires increasing to 3 to 5 tablespoons daily as the child increases in size. Vegetables, fruit, and cereal servings should be gradually increased somewhat in size.

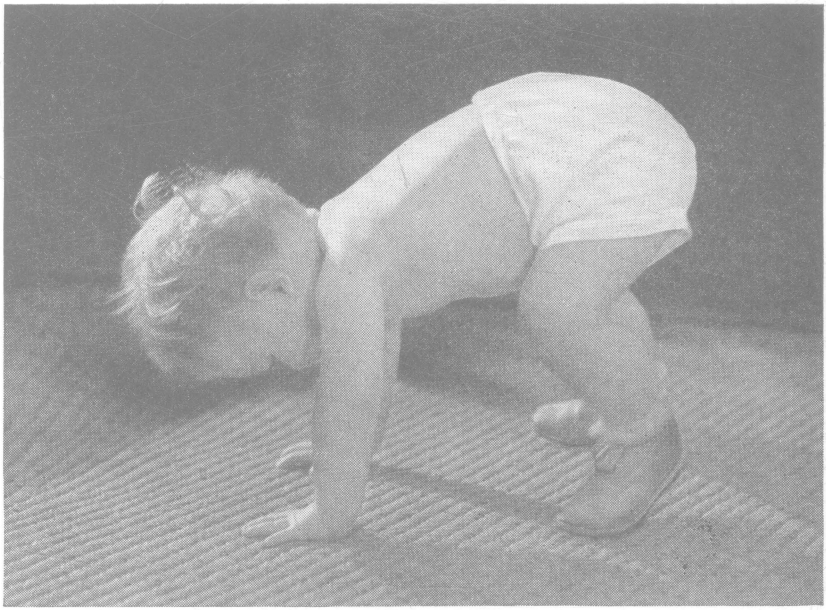
Changes in Dietary After First Year

The tendency among pediatricians is now toward three meals a day—at 7 A.M., 12 M., and 5 P.M. for the year-old baby, but if that schedule cannot be adhered to so early it will require postponement. A longer interval between meals is of advantage in that it permits rest of the digestive system between meals. It is one way to promote better appetite at regular meal time and to establish regular habits while the child is pliable.

Between-Meal Feedings Not Advisable.—Between-meal feeding is to be avoided for the normal child, as it also is a contributing factor in poor

appetite. In most nursery schools which formerly served mid-morning and mid-afternoon lunches, no between-meal feedings are now used. Fruit juices which tend to stimulate appetite are possibly the one exception that may be made.

Introducing New Foods.—As the child's food needs increase with his increasing size and as his digestive tract becomes stronger, new foods which were not included during the first year may be gradually introduced. It has been suggested that giving a child a very small amount of a new feed, repeating frequently, and very gradually increasing the amount, is the method of teaching a liking for new foods.



ATHLETICALLY INCLINED *(Courtesy Johnson and Johnson, New Brunswick, N. J.)*

Some vegetables which were not used during early infancy may be added gradually, although extreme coarseness of fiber or too large pieces must be avoided while the child is young. Cabbage, cauliflower, and turnips, if cooked in open kettle only until tender, may be introduced in the child's second year. Dried beans may occasionally be given to children over 2 years of age if soaked, cooked, and run through a strainer. The child over 2 years may also have raw, chopped, or shredded cabbage or lettuce, and peeled fresh tomatoes. All raw vegetables should be well washed in water known to be safe. Additional cooked mild fruits such as pears and peaches may be added for variety.

Meats such as liver and scraped or ground beef and lamb may be given the child over 2 years. Some pediatricians introduce 1 to 3 teaspoons of broiled, chopped liver or broiled scraped beef during the first year, particularly

if the baby is anemic or has poor appetite. The chief objection to meat or bacon is that the flavor is so pleasing to most children that the meat is likely to crowd out the necessary milk, fruits, and vegetables. Meats are also stimulating due to the flavoring substances present, and young children do not need stimulation. In fact, overstimulation is purposely avoided.

Aids to Good Appetite.—It is necessary to recognize the fact that poor appetite is very common among young children. A doctor's help is absolutely necessary in overcoming it. Physical defects are often partially responsible, but whatever the cause, it should be discovered and dealt with in a sensible and efficient manner.

Too much play and exercise are sometimes responsible for the child's being too tired to eat, even though a reasonable amount of outdoor play is one of the best of aids to good appetite. A rest period before meals does wonders for the child who tends to be too tired or overstimulated to eat. In fact, the rest period is excellent for all children.

Dangers of Overstimulation

All experience has shown that a baby who is kept quiet and allowed to rest and sleep during the greater part of his first year shows a sounder physical development. Playing with a baby, keeping him up late at night, and permitting various kinds of undue stimulation are the best possible ways to bring about nervousness, poor digestion and utilization of food, and bad food and behavior habits. The child past infancy is also adversely affected by undue stimulation. It is necessary to stress the dangers of evening romping with the young child.

The small amount of satisfaction which family and friends derive from undue stimulation of a young child are paid for dearly later on. This does not mean that a child must not be held occasionally or that he must not be taught to fit into his place as a member of the family group. His social training is as definitely a part of his general training as is his physical training, but physical perfection is the basis for happy relationships all through life, and for that reason deserves major attention early in life when the foundation for good health is being built.

The child past early infancy still requires plenty of sleep and rest as well as good food. The new baby normally sleeps 20 to 22 hours daily. At 1 year of age he probably requires 16 to 18 hours, and at 6 years at least 12 hours. While these figures cannot be taken too literally because of individual variations in children, they tend to show a very high sleep requirement for the young child.

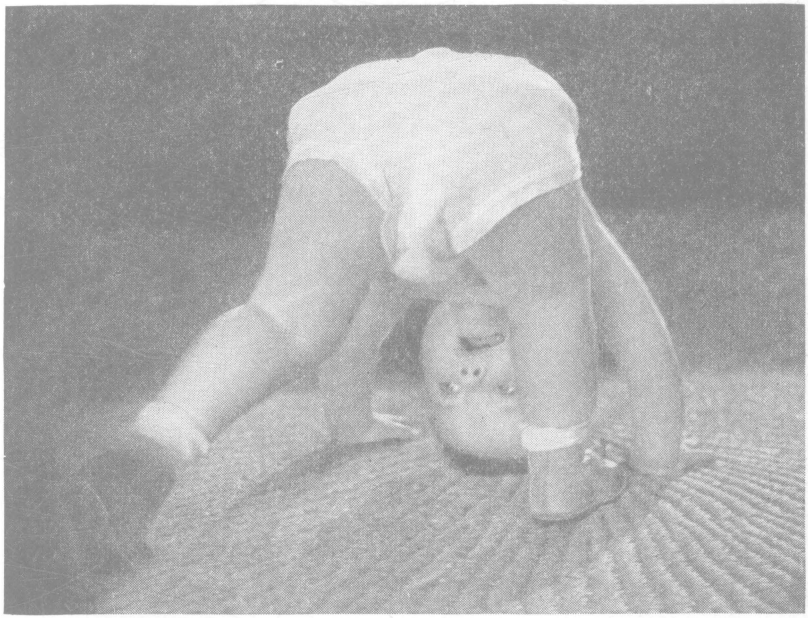
Outdoor life, sun baths, and exercise are a means of promoting good appetite as well as promoting general well-being.

Cooking for Children

It is pertinent to say a word about cooking for children. Many mothers would never have known the worry of trying to persuade children to eat or

of trying to keep up a good state of nutrition if attention had been paid to better standards of food preparation.

Fortunately, some mothers and most nutritionists realize that the cookery of food for children is much too important a matter to be left to disinterested or incompetent people. Perhaps this point may best be illustrated by the story of a family of youngsters who never ate vegetables for the reason that their mother lacked interest and pride in cookery. The vegetables on their home table were never appetizing and were usually thrown out at the end of the meal. One day an aunt who had many times observed the home situation invited the children to her apartment for lunch. Her mind was fully made



LEARNING STUNTS *(Courtesy Johnson and Johnson, New Brunswick, N. J.)*

up that for once they would eat vegetables. She had high standards of food preparation and the food that went on her table that day was of a kind that nobody could resist. She felt well repaid when the 6-year-old boy exclaimed when about half through his meal, "You know, I never eat spinach, but I sure like it the way you cook it."

The simplest food preparations are the best not only for children but for the whole family. The grown-ups could well learn early to adapt their food habits and food preparations to those best for the young child, and their meals would not suffer by so doing.

Avoid high seasonings. Too much seasoning not only masks the natural flavor of foods but may overstimulate the digestive tract, thus interfering with the absorption and utilization of the food. A small amount of salt and butter, thin cream, or white sauce are the only seasonings needed by the child.

Avoid Methods of Cooking That Lessen Value of Vegetables.—The greatest fault in all cookery, but especially in vegetable cookery, is overcooking. Cook all foods until just done and no longer. Vegetables so cooked will retain their maximum food value and their natural color, good texture, and pleasing, appetizing appearance. Ten to twenty minutes is sufficient for most vegetables.

Save the nutritive value. Avoid not only too long cooking, but also excessive amounts of water. Most foods do not require excess water to cook them and if much water is used it is probably thrown out later, including much desirable food value.

Attractive appearance is of prime importance in all cookery, but especially where young children are concerned. Most children appreciate attractive looking food much more than the average adult realizes.

Greasy Foods Not Suited to Children.—The avoidance of rich, greasy food is important for the whole family, but is absolutely fundamental for the young child. Most children cannot digest and use excess fats. The fat that is necessary in their diets should be in easily digested form, such as butterfat.

Roasted, broiled, and pan-broiled meats are probably best for the young child. There is no objection to steaming or cooking in water, but cooking in fat is undesirable. Liver, which is so valuable in the dietary of the young child, can be juicy and delicious instead of dry and leathery if not overcooked.

Attractive Service Makes Foods Interesting.—Attractive appearance of the food itself is fundamental, but interesting dishes and the manner of serving are also appealing to most children. Little touches which mean practically nothing in time and labor may be the deciding factor in the child's interest in eating.

Too Large a Serving Defeats Its Purpose.—Too large servings are to be avoided, since many children seem to lose appetite with the appearance of a large plateful of food. It is important, however, that vegetable servings be large enough to serve the purpose for which they are intended. Sometimes, a child may eat more food or drink more milk if he may serve himself.

Example Is Better Than Precept.—This brings up the question as to whether a child should eat at his own table or at table with adults. There are numerous good arguments on both sides of the question. Each case will probably have to be decided for itself, but if the child eats with adults, it is important for parents and older children to realize that their own dietary habits, good or bad, quickly and surely become the habits of the young child. Particularly does the young child imitate those for whom it has special personal liking.

Food Prejudices and Bad Food Habits

Food prejudices and bad food habits arise in many ways, some of which are easily explainable and some of which are not.

The example of adults or other children is definitely a factor.

Adverse comments about food may cause a child to cease eating foods which are already well liked. It is usually desirable to avoid all talking about food.

Unappetizing food, particularly when the child is learning to like a new food, causes distaste for the food and refusal later.

Forcing a child to eat at any time, but especially when ill, tired, or overstimulated, creates food prejudices. No matter how much concern a mother may feel regarding failure of her child to eat, the child must not be made conscious of it. The child quickly senses a means of attracting attention to himself and of gaining power over those around him.

Emotional upsets at meal time are to be avoided as a factor contributing to bad food habits.

Prohibited or Restricted Foods

No longer do we have a lengthy list of foods which the young child may not have. However, many mothers need some help in the matter of deciding whether or not it is wise to permit the young child to eat certain foods.

Stimulating beverages (tea, coffee, cocoa, and chocolate) are best left out of the young child's diet. Many mothers who avoid tea and coffee permit cocoa and chocolate, because they do not know that both contain a stimulant similar to that of tea and coffee. If used at all, cocoa should be very weak. Another reason for not allowing stimulating beverages is that they replace milk, which is so necessary in the diet.

Seasonings such as pepper and spices usually bring on digestive upsets later, even though they may appear to be well tolerated when fed. Fried foods, as well as all foods rich in fat and sugar, are to be avoided.

Ice cream, because it is a milk product, is usually considered an exceptionally safe and desirable food for young children. While it may be permitted occasionally there are objections to the regular use of ice cream. The cold temperature of frozen products retards digestion. The high fat content of many ice creams puts them in the group of other rich and high-fat foods, and the sugar content is usually high in frozen desserts. Ice creams purchased from commercial sources are to be permitted only if they are known to be made under sanitary conditions.

If ice creams are fed to the young child, plain ice cream of the custard type, which has a lower fat content, is to be preferred to richer ice creams and those of higher flavor.

Concentrated sweets are to be avoided or restricted in the young child's diet largely because they are valuable only as fuel food and tend to displace fundamental foods. Sweets between meals dull the appetite more than other foods. If fed at all, sweets are best given at the end of the meal and given sparingly. There is no reason why a child may not have cakes or cookies, but they should be his own rather than adults' cookies. In other words, sponge cakes or cookies of low fat and sugar content are just as satisfying to the child and are better for him.

Unripe fruits and all fruits and vegetables which are difficult to masticate and are therefore swallowed in too large pieces, are avoided in the diet of the young child. Nuts are not easy to masticate but are objectionable also because they are rich in fat.

As previously stated, extreme roughage is harmful to the young child because it irritates the mucous lining of the digestive tract.

Calcification of Permanent Teeth

A word may be said at this point concerning the time periods for the building of permanent teeth. Whatever may be found later concerning causes for tooth decay, all investigators now seem agreed that good diet is essential for good tooth structure. The latest information available on the most active calcification of the permanent teeth indicates that the central and lateral incisors, the cuspids or "eye" teeth, and the six-year molars are calcified during the first three years of life; the bicuspids and second molars from the third to the sixth year; and third molars from the ninth year on (12)*. This shows only one of the very excellent reasons for optimum diet during the first six years of life. The whole growing period is of fundamental importance, but the aim is here to emphasize the importance of the preschool age.

Dietary Requirements of the Child from 2 to 6 Years of Age

Present food standards for children indicate that the young child requires:

Calories or energy value of the food—1200 at 2 years to 1800 at 6 years.

Protein—40 grams daily at 2 years to 60 grams at 6 years. It is advisable to provide one-half to two-thirds from animal sources. One quart of milk, one egg, and one cereal serving will furnish 40 grams of protein. One quart of milk, one egg, cereal, bread, and one potato will provide 50 grams of protein. These foods, with additional vegetable sources and small amounts of meats, easily take care of the larger requirement at 6 years.

Calcium—1 gram daily (the amount furnished by 1 quart of milk).

Phosphorus—1 gram daily (⅘ of a gram is present in 1 quart of milk). An egg, a serving of whole cereal, or a small meat serving may easily furnish added phosphorus.

Iron—.0075 to .0085 gram daily. One quart of milk, one egg, whole cereal and whole grain bread, potato, and a green leafy vegetable will supply the needed iron. Prunes, liver, and other meats are also valuable.

Vitamins A, B, C, D, and G should be provided for, and the diet should be laxative.

A sample dietary is suggested on page 25 which gives the approximate amounts of various essential foods needed to care for the preschool child's requirements (based on 4 years of age). Another table on page 25 gives the food value of 1-ounce portions of several meats which may be used in the dietary of the young child three to four times a week or daily after 18 months of age, chiefly to provide good protein and high iron. The meats are also valuable in furnishing variety and improving appetite.

While the dietary is suggested for a 4-year-old child it is easily adapted to the lower needs of the 2-year-old or the higher needs of the 6-year-old. Calorie intake or the energy value of the food is decreased or increased chiefly by means of starches, sugars, or fats.

* See page 30.

SAMPLE DIETARY FOR FOUR-YEAR-OLD CHILD

(x indicates that the food is a significant source of the food principle)

Food	*Measure*	*Calories*	*Grams Protein*	*Grams Calcium*	*Grams Phos-phorus*	*Grams Iron*	*Vitamins*					*Laxative Property*
							A	*B*	*C*	*D*	*G*	
Milk	1 quart	675	32.00	1.00	0.8	0.00195	x	x			x	
Egg	1	70	6.00	0.04	0.12	0.002	x	x		x	x	
Whole cereal (rolled oats)	½ to ¾ c. (cooked)	100	4.00	0.017	0.099	0.00096		x				x
Whole grain bread	4 slices	200	7.00	0.016	0.012	0.00128		x				x
Butter	2 T.	200					x					
Potato	1 medium	100	2.6	0.016	0.069	0.0015		x	x		x	x
Spinach	½ cup (cooked)	25	2.0	0.07	0.07	0.004	x	x	x		x	x
Tomato	1 medium or ½ cup	25	1.0	0.01	0.03	0.0004	x	x	x		x	x
Prunes	4 to 5	100	0.7	0.018	0.035	0.001	x	x				x
Orange	1 medium	75	1.0	0.066	0.03	0.00029		x	x		x	x
TOTAL		1570	56.3	1.253	1.265	0.01338						

The first six foods will remain fairly constant in the dietary except for variation in kind of cereal. Vegetables and fruits will vary from day to day but it is well to include tomato or citrus fruit daily

MEATS COMMONLY USED IN THE DIETARY OF THE YOUNG CHILD

(x indicates that the food is a significant source of the food principle)

Food	*Measure*	*Calories*	*Grams Protein*	*Grams Calcium*	*Grams Phos-phorus*	*Grams Iron*	*Vitamins*					*Laxative Property*
							A	*B*	*C*	*D*	*G*	
Liver (beef)	1 ounce	36.5	5.75	0.005	0.062	0.0023	x	x			x	
Ground beef (or scraped)	1 ounce	44.0	6.0	0.004	0.065	0.0006		x			x	
Chicken (edible portion)	1 ounce	30.0	6.0	0.004	0.065	0.0009					x	
Lamb (broiled) (edible portion)	1 ounce	100.0	6.0	0.004	0.065	0.0009					x	

Small amounts of meat may be used occasionally up to 18 months of age, but may be used daily after 18 months.

Fish, kidney, and veal may be used as well as the ones suggested. Veal, which contains considerable stringy connective tissue, should be cooked until very tender.

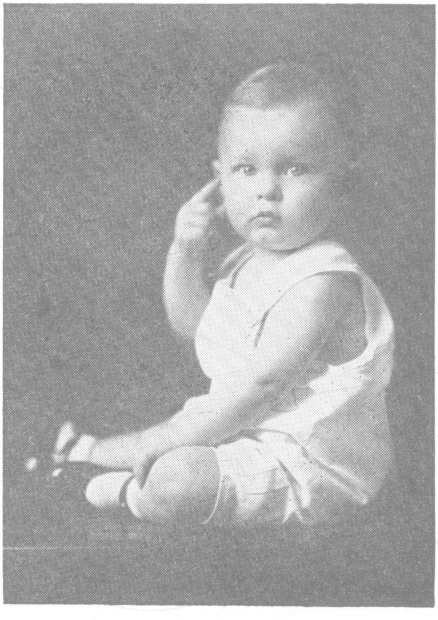
Pork is used by some physicians, but the high fat content of pork is not well tolerated by young children.

Milk, egg, whole cereal, fruits, and vegetables are included for all ages, although kinds of fruits, vegetables, and cereals will vary from day to day. Less bread and butter would reduce the diet for the 2-year-old. The 6-year-old will probably eat more bread, cereal, and butter than the 4-year-old, and some will eat three fruits and three vegetables a day. Simply made desserts such as custards and starchy puddings will usually furnish enough sugar and starch to build up calories to meet his needs.

Positive Signs of Good Nutrition

To aid mothers in judging good nutrition in their children, a brief discussion of some of the positive signs of good nutrition may be helpful.

Muscles.—Good muscles are firm rather than flabby. Strong muscles hold the frame erect, resulting in good posture. A fine straight form with erect carriage shows excellent muscle development.



Bright Eyes Are Indicative of Good Health

Fat.—The putting on of fat is not the aim in the nutrition program of the child, but a fair layer of fat under the skin is desirable. It shows that the energy value of the child's diet meets his needs. Nerves which have no padding of fat are subject to sufficient external stimulation to result in tenseness and irritability on the part of the child.

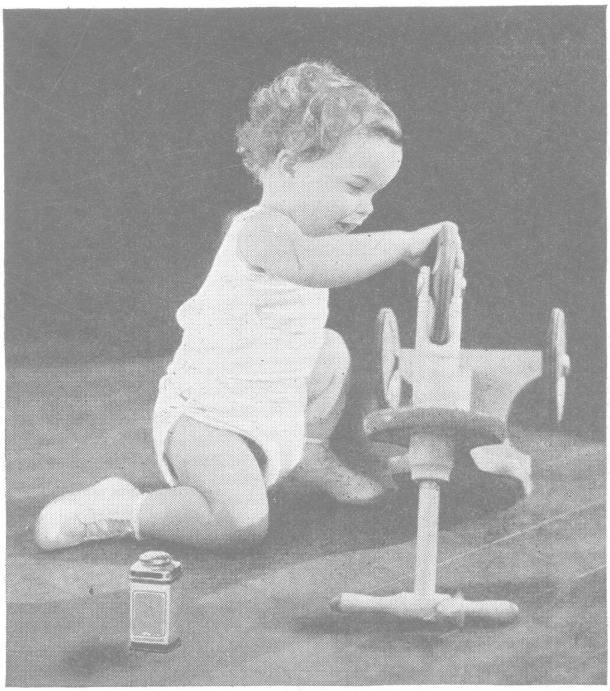
Bones.—It is impossible to see the structure of the bony framework except by X-ray, but straight bones with no abnormalities in shape are an indication of excellent bone development. Jaw development which permits normal placement of teeth can be easily observed and is an important part of good bone development.

Teeth.—Normal number and placement of teeth as well as good tooth structure are indications that the nutritional program has been adequate. While the specific causes of dental decay are not definitely known at present, all workers agree that a diet which is excellent in all respects, is favorable in preventing or arresting tooth decay.

Skin Color.—Color of skin is variable under normal healthy conditions. A good blood supply, however, is usually reflected in a more or less rosy color of skin, but lack of distinct red coloring is not necessarily an indication of

poor nutrition. Thickness of skin as well as hereditary tendencies toward red cheeks must be considered. Clear skin is a nutritional asset which may be enjoyed by all healthy children. The lining of the mouth and other mucous membranes, if normal, show reddish color.

Nerves.—Good nerve development is best shown by calmness, lack of irritability, normal restful sleep, and cooperative response to training. The effects of poor nerve development are among the most evident of the abnormalities of childhood. Holt says, "Most of the neuroses (various forms of



(Johnson and Johnson, New Brunswick)

A Healthy Baby is Happy and Active

nervousness) of children depend entirely upon disorders of nutrition. Headaches, disturbed sleep, hysterical manifestations, and a multitude of others are relieved only by correcting the faulty diet and habits which are the basis of disturbed nutrition."

Facial Expression.—When a child's face is in repose the expression should be happy. Bright eyes and a happy, buoyant manner are signs that all is well with the child's nutritional state. A troubled, unhappy expression denotes an under-par condition due to some cause. If persistent, the child's nutritional state is doubtless at fault.

Height and Weight Gains.—While undue emphasis has, in the past, been placed upon height and weight gains as a means of judging the state of nutri-

tion, it is in a measure a visible means of judging. It is normal for a child to increase regularly in height and weight. The rate may differ at different ages and with different children, but stunting and emaciation are evidences of advanced malnutrition. Never again during life will the growth equal that of the first year. The average gain during the second year is about 6 pounds; during the third, about 4½ pounds; from four to eight years of age, the child gains about 4 pounds per year.

Height increases are less rapid than weight increases. Height is usually not doubled until about the end of the fourth or the beginning of the fifth year. Unless undernutrition is extreme, a child may continue to grow in height even when weight gains are not normal.

Causes of Malnutrition Other Than Dietary

Not only must the food of the child be adequate in kind and amount, but he must digest and utilize it if it is to accomplish what it is meant to accomplish in his development. Conditions other than faulty diet may be responsible for part of the child's inability to show normal physical development.

Physical Defects.—Defects such as bad teeth, tonsils, or adenoids may interfere with good nutrition. If tonsils and adenoids are so enlarged that the child is unable to swallow easily, his nutritional state suffers through lack of food. If poisons are absorbed from diseased teeth, tonsils, or adenoids, loss of appetite may result, as well as decreased resistance to infections, and a general depressed state.

Poor Posture.—It was pointed out earlier that poor muscular development may result in a sagging posture, but poor posture may in turn be a cause of poor nutrition because digestive organs cannot function normally unless they are in proper position.

Infections.—Various infections may cause malnutrition by the depressing effect of their toxins on appetite and on the body cells.

Corrective Work to Overcome Defects

It becomes evident that many factors enter into the one important problem of the nutritional care of the child. It also becomes evident that good medical supervision, as was stated at the beginning, is fundamental. Good nutrition is not synonymous with good health. It is impossible to have good health without good nutrition, but good nutrition is only one important phase of the general health program.

The prevention of malnutrition by making possible excellent prenatal, infant, preschool, and school-age care is the ideal method of approach in solving the problem of malnutrition of children.

Since many children, however, fail to receive ideal care at the beginning and start life with physical handicaps, it becomes necessary to do corrective work or "salvaging," as McCollum puts it. If the corrective program begins early enough it may accomplish much, although it cannot be hoped to produce children as nearly ideally nourished as if their care had started earlier. Some

scars remain if the malnutrition is severe enough before corrective work is begun.

In the process of salvaging, a complete physical examination is necessary as a starting point. Physical defects must be recognized and eradicated. Frequent and regular examinations will be money savers. The child's whole manner of living requires study and change—his hours of sleep, his diet, his outdoor life, and exercise. Usually many things are at fault, although an occasional case is found in which some one factor such as diseased tonsils or adenoids may account for the state of poor nutrition.

A Two-Year Old Child with a Good Start in Life

Even though much may be accomplished by corrective work, it requires patience, determination, and training. However, there is a great deal to hope for and to encourage the mother who is willing to seek information and to make the necessary effort, especially if she realizes the necessity for starting early.

It is a fortunate child who comes into a home where his right to be well born and cared for is recognized, but is a more fortunate child whose parents realize, in addition, that information and training on their part are necessary if they are to be able to distinguish between fair, good, and superior standards of physical fitness.

The child who comes into the world with a sound body, whose health during infancy and early childhood has not been impaired by disease or bad health habits, whose nutritional needs have been met by optimum rather than merely adequate diet, and whose care and training have developed a cooperative response on his part, will reach school age with a superior body.

A healthy foundation will have been laid which will verify Mrs. Rose's statement that "One year of good feeding at the beginning of life is more important than ten after forty."

Mothers wishing to do additional reading on care and feeding of infants and having library facilities available may find the following list of references helpful (see next page).

Additional Reading Helps

1. Rose—Feeding the Family. Macmillan Company.
2. Marriott—Infant Nutrition. Mosby Company.
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Memorandum of Notes from Interview with Physician

"The child's chief business in life is to grow strong and develop good habits. . . . . One year of good feeding at the beginning of life is more important than ten after forty, and a baby's needs are not to be judged by an adult's inclinations. Feeding must be a matter of principle and not of impulse; the reward will be partly in the present—much more in the future."

—Mary Swartz Rose